

CASORON, A New Aquatic Herbicide

JAMES L. TAYLOR

Thompson-Hayward Chemical Co.,

Gainesville, Florida

CASORON¹, Dichlobenil aquatic weed killer, 2,6-dichlorobenzonitrile, has been recently cleared for use in aquatic situations by the United States Department of Agriculture.

CASORON is formulated for aquatic use as a special granule designed to sink rapidly to the bottom of water. CASORON is recommended for use in nonflowing water

and is most effective on rooted or attached aquatic weed species.

Weeds controlled

CASORON has been found to be effective against a number of aquatic weed species. Weed species currently being

1. CASORON® is a research discovery of N. V. Philips-Duphar, U.S. Patent 3,027,248. USDA Reg. No. 184-673.

Needlerush (*Eleocharis*), bladderwort, eurasian watermilfoil, bull rush (*Scirpus*) and juncus.

Research efforts are continuing on these weed species as well as other difficult to control aquatic grasses such as maidencane (*Panicum hemitomon*) and southern water-grasses (*Hydrochloa caroliniensis*).

Time and method of application

CASORON is most effective when applied prior to active weed growth or when weed species are in a dormant condition. Combination of CASORON with contact herbicides may be practical in some areas where aquatic weed species do not become dormant, and recent results with this type of application are encouraging.

CASORON acts primarily through the root system. CASORON 4% aquatic granules are designed to sink rapidly to the bottom where the chemical is rapidly absorbed on the soil and subsequently absorbed through the weed species root system.

CASORON may be applied to exposed pond bottoms after drawdown and ponds may be refilled immediately after treatment or CASORON may be applied directly through the water.

Fish safety and Toxicology

The LD 50 to most fish species is between 15-30 PPM. This represents a 10-20X safety margin even when an entire pond is treated. No adverse effects on spawning have been observed at recommended rates.

Preliminary information regarding the toxicity of CASORON to estuarine species indicate a low degree of toxicity to shrimp, oyster and spot fish (*Leiostomus xanthurus*). Re-

cent information regarding the toxicity of CASORON to food chain organisms indicate CASORON to be a very safe herbicide to *Daphnia magna* with a lethal concentration to this organism in the range of 10 PPM.

CASORON was found to have similiar effects on phytoplankton where little effect was noted on any phytoplankton at levels below 10 PPM. Phytoplankton species evaluated included *Phaeodactylum tricornutum*, *Dicrateria inornata* and *Chlorell A*.

CASORON levels in water rarely exceed 0.5 PPM even when whole ponds are treated.

Rates and Advantages

CASORON is suggested for use at rates ranging from 175-275 lb. of 4% aquatic granules per acre or 7-11 lb. ai/A. Lower rates are suggested in shallow water or exposed bottoms.

Advantages associated with the use of CASORON are:

- (1) CASORON is effective on a wide range of aquatic weed species.
- (2) CASORON is extremely effective against chara, a species very difficult to control with existing chemicals.
- (3) CASORON is easy to apply since rates are figured on a standard per acre basis rather than needing to determine water volume.
- (4) CASORON is well suited for partial pond or lake treatment with effectiveness restricted to the treated area.
- (5) CASORON is extremely safe to most fish species and food chain organisms.